

## ABSTRACT OF THE DISCLOSURE

After one or both of a pair of images are obtained, an auto-correlation function for one of those images is generated to determine a smear amount and possibly a smear direction. The smear amount and direction are used to identify potential 5 locations of a peak portion of the correlation function between the pair of images. The pair of images is then correlated only at offset positions corresponding to the one or more of the potential peak locations. In some embodiments, the pair of images is correlated according to a sparse set of image correlation function value points around the potential peak locations. In other embodiments, the pair of images is correlated at 10 a dense set of correlation function value points around the potential peak locations. The correlation function values of these correlation function value points are then analyzed to determine the offset position of the true correlation function peak.